

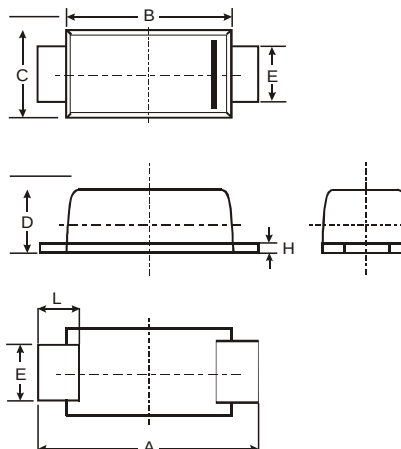
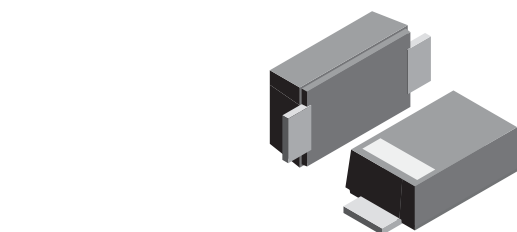
**VOLTAGE RANGE: 100V**  
**CURRENT: 150mA**

### Features

- High Breakdown Voltage
- Low Turn-on Voltage
- Guard Ring Construction for Transient Protection

### Mechanical Data

- Case: SOD-123FL  
plastic body over passivated junction
- Terminals : Plated axial leads,
- solderable per MIL-STD-750, Method 2026
- Polarity : Color band denotes cathode end
- Mounting Position : Any
- Weight: 0.0007 ounce, 0.02 grams



| SOD-123FL            |      |      |       |
|----------------------|------|------|-------|
| Dim                  | Min  | Max  | Typ   |
| A                    | 3.50 | 3.80 | 3.65  |
| B                    | 2.60 | 2.90 | 2.75  |
| C                    | 1.70 | 1.90 | 1.80  |
| D                    | 0.09 | 1.10 | 1.00  |
| E                    | 0.08 | 1.10 | 0.095 |
| H                    | 0.12 | 0.20 | 0.16  |
| L                    | 0.07 | 0.09 | 0.08  |
| All Dimensions in mm |      |      |       |

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                                                                         | Symbol                          | BAT46W      | Unit |
|----------------------------------------------------------------------------------------|---------------------------------|-------------|------|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 100         | V    |
| Average Rectified Forward Current                                                      | $I_O$                           | 75          | mA   |
| Forward Continuous Current                                                             | $I_F$                           | 150         | mA   |
| Repetitive Peak Forward Current<br>@ $t_p < 1.0s$ , Duty Cycle < 50%                   | $I_{FRM}$                       | 350         | mA   |
| Forward Surge Forward Current (Note 1) @ $t_p = 10ms$                                  | $I_{FSM}$                       | 750         | mA   |
| Power Dissipation (Note 1)                                                             | $P_d$                           | 200         | mW   |
| Thermal Resistance, Junction to Ambient Air (Note 1)                                   | $R_{\theta JA}$                 | 500         | °C/W |
| Operating and Storage Temperature Range                                                | $T_j, T_{STG}$                  | -55 to +125 | °C   |

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic            | Symbol      | Min | Typ       | Max                                                | Unit    | Test Condition                                                                                                                                                                                 |
|---------------------------|-------------|-----|-----------|----------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reverse Breakdown Voltage | $V_{(BR)R}$ | 100 | —         | —                                                  | V       | $I_R = 100\mu A$                                                                                                                                                                               |
| Forward Voltage           | $V_F$       | —   | —         | 0.25<br>0.45<br>1.00                               | V       | $I_F = 0.1mA$<br>$I_F = 10mA$<br>$I_F = 250mA$                                                                                                                                                 |
| Peak Reverse Current      | $I_R$       | —   | —         | 0.5<br>5.0<br>0.8<br>7.5<br>2.0<br>15<br>5.0<br>20 | $\mu A$ | $V_R = 1.5V$<br>$V_R = 1.5V, T_j = 60^\circ C$<br>$V_R = 10V$<br>$V_R = 10V, T_j = 60^\circ C$<br>$V_R = 50V$<br>$V_R = 50V, T_j = 60^\circ C$<br>$V_R = 75V$<br>$V_R = 75V, T_j = 60^\circ C$ |
| Total Capacitance         | $C_T$       | —   | 10<br>6.0 | —                                                  | pF      | $V_R = 0V, f = 1.0MHz$<br>$V_R = 1.0V, f = 1.0MHz$                                                                                                                                             |